



Attorney's Docket No.: 16459-010001

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Alexei A. Erchak

Art Unit : 2879

Serial No. : 10/724,029

Examiner : Martin R. Hodge

Filed : November 26, 2003

Title : HIGH-EFFICIENCY LIGHT-EMITTING DEVICES

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449.

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. A check for \$180 in payment of the late submission fee of §1.17(p) is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,



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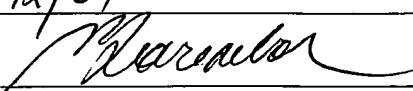
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Substitute Form PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-010001	Application No. 10/724,029
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)  (37 CFR §1.98(b))		Applicant Alexei A. Erchak		
		Filing Date November 26, 2003	Group Art Unit 2879	

### U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,359,345	10/25/94	Hunter et al.			
	AB	5,631,190	05/20/97	Negley et al.			
	AC	5,724,062	03/03/98	Hunter et al.			
	AD	5,799,924	07/14/98	Krames et al.			
	AE	5,955,749	09/21/99	Joannopoulos et al.			
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	AH	6,559,075	05/06/03	Kelly et al.			
	AI	6,410,942	06/25/02	Thibeault et al.			
	AJ	6,657,236	12/02/03	Thibeault et al.			
	AK	2003/0141507	07/31/03	Krames et al.			

### Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL	WO 98/14986	04/09/98	PCT				
	AM							

### Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AN	W.S. Wong et al. "Damage-free separation of GaN thin films from sapphire substrates", Appl. Phys. Lett. 72 (5), February 2, 1998, pages 599-601
	AO	M.K. Kelly et al. "Optical process for liftoff of Group III-nitride films", Physica Status Solidi; Rapid Research Note, November 28, 1996, 2 pages.
	AP	A. A. Erchak et al. "Enhanced coupling to vertical radiation using a two-dimensional photonic crystal in a semiconductor light-emitting diode", Appl. Phys. Lett. 78 (5), January 29, 2001, pages 563-565
	AQ	P.L. Gourley et al. "Optical properties of two-dimensional photonic lattices fabricated as honeycomb nanostructures in compound semiconductors", Appl. Phys. Lett. 64(6), February 7, 1994, pages 687-689
	AR	P.L. Gourley et al. "Optical Bloch waves in a semiconductor photonic lattice", Appl. Phys. Lett. 60 (22), June 1, 1992, pages 2714-2716
	AS	J.R. Wendt et al. "Nanofabrication of photonic lattice structures in GaAs/AIGaAs", J.Vac. Sci. Technol. B 11(6), November/December 1993, pages 2637-2640

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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Sheet 2 of 2

Substitute Form PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-010001	Application No. 10/724,029
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<b>Other Documents (include Author, Title, Date, and Place of Publication)</b>		
Examiner Initial	Desig. ID	Document
	AT	M. Krames et al "Introduction to the Issue on High-Efficiency Light-Emitting Diodes", IEEE Journal on selected topic in quantum electronics, Vol. 8, No. 2 March/April 2002, pages 185-188
	AU	K. Streubel et al. "High Brightness AlGaInP Light-Emitting Diodes", IEEE Journal on selected topic in quantum electronics, Vol. 8, No. 2, March/April 2002, pages 321-332
	AV	M. Okai et al. "Novel method to fabricate corrugation for a $\lambda/4$ -shifted distributed feedback laser using a grating photomask", Appl. Phys. Lett. 55(5), July 31, 1989, pages 415-417
	AW	T.L. Koch et al. "1.55- $\mu$ InGaAsP distributed feedback vapor phase transported buried heterostructure lasers", Appl. Phys. Lett. 47 (1), July 1, 1985, pages 12-14
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	AZ	M. Rattier et al. "Omnidirectional and compact guided light extraction from Archimedean photonic lattices", Appl. Phys. Lett. 83 (7), August 18, 2003, pages 1283-1285
	AAA	Y.-J. Lee et al. "A high-extraction-efficiency nanopatterned organic light-emitting diode", Appl. Phys. Lett. 82(21), May 26, 2003, pages 3779-3781
	ABB	I. Schnitzer et al. "30% external quantum efficiency from surface textured, thin-film light-emitting diodes", Appl. Phys. Lett. 63 (18), October 18, 1993, pages 2174-2176
	ACC	M. Boroditsky et al. "Light extraction from optically pumped light-emitting diode by thin-slab photonic crystals", Appl. Phys. Lett. 75 (8), August 23, 1999, pages 1036-1038
	ADD	L. Chen et al. "Fabrication of 50-100 nm Patterned InGaN Blue Light Emitting Heterostructures", Phys. Stat. Sol. (a), 188 (1), 2001, pages 135-138.
	AEE	I. Bulu et al. "Highly directive radiation from sources embedded inside photonic crystals", Appl. Phys. Lett. 83 (16), October 20, 2003, pages 3263-3265
	AFF	T. N. Oder et al. "III-nitride photonic crystals", Appl. Phys. Lett. 83 (6), August 11, 2003, pages 1231-1233
	AGG	M.K. Kelly et al. "Optical patterning of GaN films", Appl. Phys. Lett 68 (12), September 16, 1996, pages 1749-1751

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